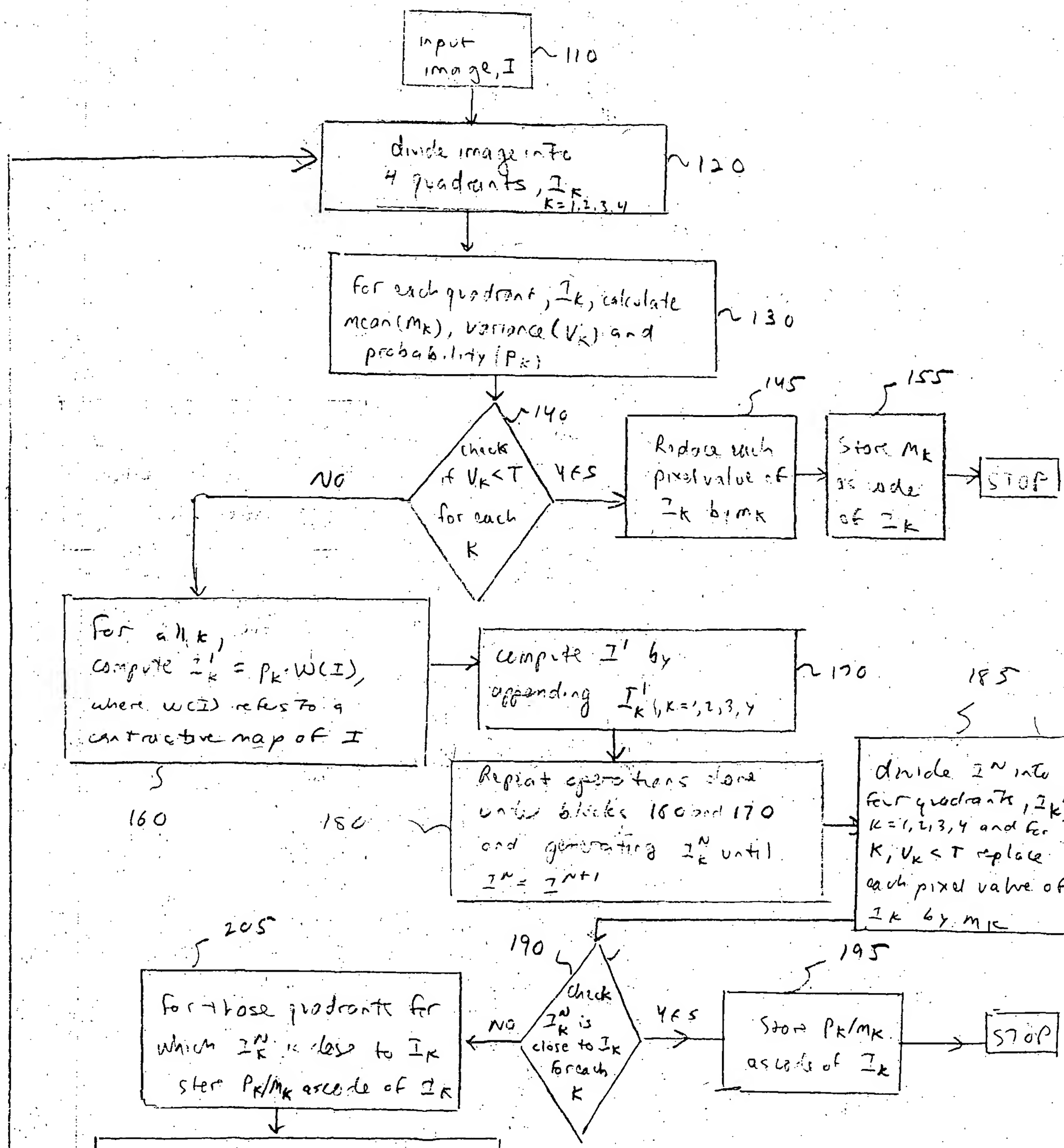
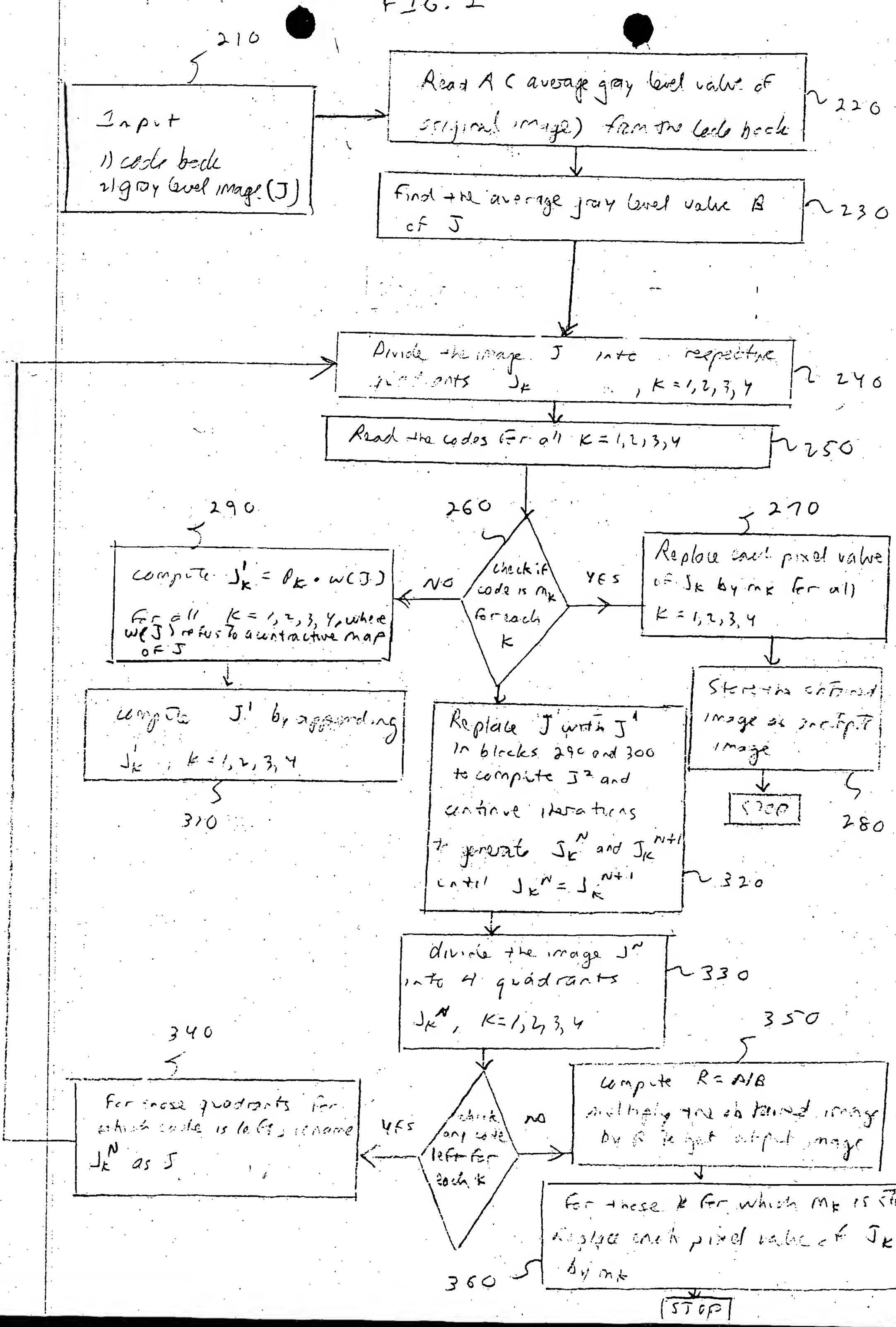

input image, I
110
divide image into 4 quadrants, I_k, k=1,2,3,4
120
for each quadrant, I_k, calculate mean(m_k), variance(V_k) and probability (P_k)
130
check if $V_k < T$ for each K
140
NO
YES
Replace each pixel value of I_k by m_k
145
Store m_k as code of I_k
155
STOP
for all k, compute $I'_k = P_k \cdot W(I)$, where W(I) refers to a contractive map of I
160
compute I' by appending I'_k, k=1,2,3,4
170
Repeat operations done under blocks 160 and 170 and generating I^N_k until $I^N = I^{N+1}$
180
divide I^N into four quadrants, I^N_k, k=1,2,3,4 and for K, $V_k < T$ replace each pixel value of I_k by m_k
185
check I^N_k is close to I_k for each K
190
NO
YES
For those quadrants for which I^N_k is close to I_k store P_k/m_k as code of I_k
195
STOP
For those quadrants for which I^N_k is not close to I replace I by I_k and repeat operations starting at block 120
205
215
100

FIG. 1

FIG. 2


210
Input
1) code book
2) gray level image (J)
Read A (average gray level value of original image) from the code book
220
Find the average gray level value B of J
230
Divide the image J into the respective quadrants J_K, K = 1, 2, 3, 4
240
Read the codes for all K = 1, 2, 3, 4
250
260
Check if code is n_K for each K
NO
YES
270
Replace each pixel value of J_K by n_K for all K = 1, 2, 3, 4
Store the obtained image as output image
280
STOP
290
compute $J'_K = \rho_K \cdot w(J)$
for all K = 1, 2, 3, 4, where w(J) refers to a contractive map of J
compute J' by appending J'_K, K = 1, 2, 3, 4
310
Replace J with J' in blocks 290 and 300 to compute J^2 and continue iterations to generate J_K^N and J_K^{N+1} until $J_K^N = J_K^{N+1}$
320
divide the image J^N into 4 quadrants J_K^N, K = 1, 2, 3, 4
330
340
check any code left for each K
YES
For those quadrants for which code is left, rename J_K^N as J
NO
350
Compute R = A/B
multiply the obtained image by R to get output image
For those K for which n_K is stored replace each pixel value of J_K by n_K
360
STOP